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ORIGINAL ARTICLES

SOME RECENT ADVANCES IN OTOLARYNGOLOGY*

By

FRANK W. DIMMITT, M.D.
195 THAYER ST., PROVIDENCE, R. I.

In the past few years much has been added to accuracy of diagnosis in conditions involving the ear, nose, and throat. There have been exacting inquiries in pathology. Comparative studies in anatomy and physiology have increased our knowledge of these branches, particularly in regard to the inner ear. Animal experimentation has been widely resorted to in approaching problems of the ear and nasal sinuses. The refinements of operative technique have been many.

The specialty of otolaryngology has become more extensive in its scope, and, as progress has been made in understanding diseases of the ear, nose and throat, their intimate relation to general medical conditions has become more apparent. It is the purpose of this paper to present some remarks upon a few of the problems which are attracting the interest of otolaryngologists.

Paranasal Sinuses

In calling attention to the part which the fundamental physical laws of gases and fluids play in ventilation and drainage of the sinuses, Dr. Arthur Proetz has made a valuable contribution. He analyzed the effects of variations in intranasal pressure, of ostia narrowed by swelling, and of increased viscosity of sinus secretions. In studying these matters Proetz found that, with the head in proper position, a fluid placed in the nasal chambers could be introduced into various sinuses. This result is accomplished by gentle intermittent suction, which gradually withdraws the air, allowing the fluid to displace it. By this method an irrigating fluid can be introduced into the posterior ethmoid and sphenoid cells, with benefit in some infections of these sinuses.

By the same procedure radio-opaque oil may be placed in these sinuses as an aid in roentgenologic diagnosis. While the usual methods of clinical examination, aided, when necessary, by ordinary x-ray pictures, generally enable one to determine what treatment is necessary, there is a certain number of cases of sinus involvement in which the use of iodized oil assists in determining more exactly the pathological condition present.

In the maxillary antrum the introduction of iodized oil is most readily accomplished by use of the ordinary irrigating needle, and it is in this sinus that the contrast medium has been found most useful. Here it aids in the more exact demonstration of thickened lining membranes, polyps, cysts, and anomalous septums, enabling one to decide which cases will require radical operation, and which may be expected to clear up under more conservative treatment.

The maxillary antrum is, of all the sinuses, the one most often diseased. The cause of this disease may be intranasal, but the proximity of this sinus to infected upper teeth is, in many instances, the reason for its involvement. Berry has recently redirected attention to this fact. In a careful study of 152 consecutive cases of antrum infection he concluded that 18 per cent. were of proven dental origin, 30 per cent, were probably, and another 41 per cent. possibly, due to this cause.

The frequency of dental origin of such trouble should be borne in mind. Sometimes the first manifestation of disease in a supposedly sound tooth is the development of a purulent process in the overlying antrum. This occurrence usually leads to pain, foul odor manifest to the patient, and discharge of pus from the nostrils or back into the pharynx. However, drainage of the pus into the nose may be prevented by swelling around the antral ostium, so that pain is the only symptom of which the patient complains. In such cases prolonged suffering is sometimes entailed before diagnosis is made.

*Read before the Providence Medical Association, June 2nd, 1930.

Sinusitis in Young Subjects

The diagnosis of sinus infection in infants and young children is being made more frequently. It often has been overlooked because of the difficulty of intranasal examination in babies, and because the secretion often runs back into the throat and is swallowed. The x-ray has been found most helpful in disclosing sinusitis in these young subjects.

Roentgenograms frequently show extensive development of the ethmoid cells in young children, even in infants six to twelve months of age. It is generally only the ethmoid cells which are involved in infection in the youngest patients. Most cases of ethmoiditis yield to conservative intranasal treatment directed at good drainage. The use of astringent drops, such as a one per cent. solution of ephedrine sulphate, usually suffices. Almost the only cases requiring operation are those which involve the orbit by rupture through the orbital plate. Such cases are usually best treated by external operation.

Maxillary antrums of considerable size are occasionally found in children as young as three or four years, but are more often diseased in somewhat older children. Where infection of these sinuses resists treatment by simple intranasal medication relief is often readily effected by a few irrigations by simple needle puncture, or at most by the making of a window in the nasoantral wall. Timely intervention by means of these simple, non-destructive measures may prevent the development of chronic sinusitis. Radical surgical treatment is almost never necessary. Lillie states that 98 per cent. of sinus infection in children can be cured.

The presence of persistent nasal discharge in a child, especially if the adenoids have been removed, is indicative of sinus infection in the majority of cases. The recognition and treatment of the sinusitis is important. There is great satisfaction in the promptness with which so many of these diseased sinuses clear up under fairly conservative treatment. Neglected they may cause malnutrition, arthritis, and progressive deafness; and often develop into the resistant chronic sinusitis of adults.

Causes of Sinusitis

In recent years considerable study is being given to the underlying etiologic factors concerned in sinus infection. Dr. Lee W. Dean enumerates the following causes as being of importance: Deficient diet, poor hygiene, including improper clothing and ventilation, endocrine disturbances, nephrosis, diseased tonsils and adenoids, nasal blockage, swimming, metabolic disorders, climatic conditions, especially lack of sunshine, and allergy.

A better understanding of these factors will enable us to prevent some sinus trouble, and to treat diseased sinuses more effectively.

Diseased tonsils and adenoids, especially large adenoids which obstruct nasal respiration and ventilation, are frequently factors in causing and keeping up sinus infection, and their removal is necessary to affect a cure. However, we sometimes see marked sinus involvement causing nasal congestion and obstruction when the tonsils and adenoids are quite small and innocent. Treatment of the sinus condition is then all that is required. The tonsils and adenoids are too often removed from such patients without any preliminary intranasal examination, and the expected improvement is not obtained. Certainly almost every patient upon whom a tonsil and adenoid operation is contemplated should be given the benefit of an intranasal examination.

It is a matter of common sense and common observation that a deficient diet predisposes to sinus infection. Experimentally Wolbach and Howe, Tyson and Smith, and Daniels have shown that in rats and guinea pigs fed upon a diet deficient in vitamine "A" specific changes in epithelial tissues occur. There is hyperplasia and keratinization of epithelium in certain parts of the respiratory tract, the eye, and other parts of the body. So vulnerable is this altered epithelium that Daniels observed sinus suppuration in every rat on such a diet. Clinically the improvement which follows the administration of cod liver oil and increased amounts of butter, cream, liver, etc., to patients having sinusitis and other upper respiratory infections bears out these experimental observations.

In considering nasal obstruction and sinus disease the possible presence of an allergic factor must always be borne in mind. In some instances the underlying sensitiveness to an allergen is the sole cause of the trouble. Indiscriminate operations upon septums, turbinates, and sinuses in such patients often have given unsatisfactory results.

The nose obstructed by allergic swelling of the mucous membrane is very liable, sooner or later, to develop sinus infection. The narrowed airways and blocked sinus openings prevent proper ventilation and drainage. The activity of the ciliated epithelium is embarrassed by swelling of the tissues and by the accumulated secretions. Infection often supervenes, and surgical treatment may be required in conjunction with other procedures.

When an allergic element is evident from the history and clinical findings the diagnosis may sometimes be affirmed by an examination of the discharge. The cells may be largely eosinophiles, even up to forty or sixty per cent. In ordinary nasal infections the cells are nearly all polymorphonuclear neutrophiles. An eosinophile count of over ten per cent. strongly suggests allergy.

Sinusitis and Otitis

Dr. Edmund P. Fowler has made a thorough study of the incidence of nasal sinusitis with diseases of the ear in one hundred children. He says: "Though the problems of deafness in the adult are better understood, prevention and treatment are less effective than in children. If progressive deafness is to be mastered, the periods of its inception and pre-inception will furnish the most promising grounds for research."

Of the one hundred children studied 57 per cent. showed moderate or severe involvement of the nasal sinus spaces; 86 per cent showed some positive pathological changes in the sinuses. The chronicity of the inflammation in the ear was directly proportional to the involvement of the paranasal sinus spaces.

He concludes that the coexistence of otitis and active or latent sinus infection is not a mere coincidence. Diseases of the nasal sinus spaces and of the sinus spaces of the ear are intimately associated. Prevention, alleviation, and cure of one necessitates the prevention, alleviation, and cure of the other.

These findings again direct attention to the part which sinus infection plays in contributing to the recurrence and chronicity of middle ear and mastoid infections. Treatment of the sinusitis is as necessary as the local treatment of the ear condition if lasting improvement is to be obtained.

Sinusitis and Bronchial Affections

In 1921 Mullin reported extensive observations on the relation of paranasal sinus infection to disease of the lower respiratory tract, especially chronic bronchitis and bronchiectasis. Despite many subsequent articles on this subject it is not yet widely enough recognized that some patients with symptoms strongly suggestive of pulmonary tuberculosis may have bronchiectasis, usually associated with infection of the upper respiratory tract.

In a recent study of thirty-eight patients with bronchiectasis Quinn and Meyer report finding sinusitis in 58 per cent. Of those having sinus disease 90 per cent had maxillary antrum infection with frank pus, although the majority complained of no symptoms directly referable to the sinuses.

These authors instilled iodized oil into the nasal fossae of sleeping individuals, and proved by roentgenograms that a considerable quantity of this substance can be aspirated into the smaller bronchi and the lung parenchyma. They concluded that diseased sinuses are capable of constantly reinfecting the lower respiratory tract.

The sequence of infection of various parts of the respiratory tract, in many instances, can only be surmized. In fact the infection in sinuses and bronchi often begins at the same time. Never-theless there are some patients in whom the bronchial disease would clear up but for the untreated sinusitis. Certainly the investigation of no case of chronic bronchitis or bronchiectasis is complete until the sinuses have been examined.

Wasson has watched the development of respiratory infections in a large number of children from birth up to varying ages, ranging up to eight years, taking frequent roentgenograms of the sinuses and chest. He has found that association of sinus infection and bronchial infection, particularly peribronchial thickening at the lung hilus, is rather common. He calls it bronchosinusitis disease, and states that it gives typical manifestations clinically, roentgenographically, and at necropsy.

The Nose and Throat in Asthma

The significance of infection in the nose, throat, and teeth of asthmatic patients is a matter of importance. The reports of cures following the treatment or removal of such foci have led to the hope that relief could thus be effected in many such persons. Rackemann and Tobey have recently reported their observations on 1074 cases

of asthma at the Massachusetts General Hospital.

The influence of foci of infection was found to vary with the type of asthma. In general, however, treatment of the nose, throat, and teeth apparently brought about permanent and complete relief from asthma in only five per cent. of patients. The most favorable results were obtained in bacterial asthma of children, in which cases the removal of diseased tonsils, and common-sense procedures directed toward improvement of general health gave gratifying results.

While a specific result in the cure of asthma was not obtained in many patients, correction of definite foci of infection often resulted in temporary or permanent improvement in general health.

In regard to concomitant sinus trouble Rackemann and Tobey believe that their observations add weight to the view that hyperplastic sinusitis represents merely a part of the fundamental changes that occur in asthma, rather than a cause of the asthma.

This view as to the significance of hyperplastic sinusitis is disapproved of by many. The failure to obtain relief from the asthma may often be due to too conservative operation upon the involved sinuses. Ferris Smith recently reported 74 per cent. of cures and 26 per cent. of marked improvements following sinus operation in this class of asthmatic patients. He urges careful radical antrum operation and exenteration of the ethmoid cells as thorough as possible, followed, if necessary, by radium or zinc ionization of the ethmoid area. He states that it is the condition of the ethmoid area alone which prevents complete cure of asthma resulting from sinus disease. Numerous other otolaryngologists have expressed substantially the same opinion.

Cancer of the Larynx

Malignant lesions of the larnyx constitute five per cent. of all malignant tumors. About one-fifth of the laryngeal growths originate in the extrinsic structures of the larynx and involve neighboring structures early. Their complete surgical removal is difficult, so that the chances of real cure are small. The remaining four-fifths are of intrinsic origin. Though most of them are of squamous cell type they are relatively slow to metastasize Nearly all of this group make their presence known early by the hoarseness which develops. If this danger signal is heeded present-day treatment offers increasing hope to the sufferer from intrinsic laryngeal cancer.

Mackenty recently summarized 230 cases of laryngeal cancer which he had treated by laryngectomy. He strongly advocates this radical procedure in preference to thyrotomy except in the earliest stages. He states that even very early and seemingly localized cancers may, in reality, involve adjacent laryngeal structures, and in 1923 demonstrated such occurrence in three excised larynges. He believes that the false promise of radium treatment is luring thousands of cases of laryngeal cancer beyond the aid of surgical procedures. In his hands larygectomy in cases of intrinsic cancer has had a surgical mortality of only three per cent.; it has been followed by recurrence in three per cent. of early cases, and in twenty-five per cent. of moderately advanced cases.

In contrast to this report the writings of many men show a definite trend to more conservative operation in malignant growths of the larynx. The statistics of these authors show that recurrence in patients operated on by laryngofissure is constantly diminishing. St. Clair Thomson, probably the best known advocate of laryngofissure, lately reported his lasting cures as averaging seventy-six per cent. The less radical procedure has the great advantage of preserving the voice to some extent, and of avoiding permanent tracheotomy. However, the development of a satisfactory artificial larynx has enabled many laryngectomized individuals to pursue successful, active careers.

Gastrointestinal Disturbances in Infants

In 1921 Maurice Renaude found pus in the mastoid antrums of seventy babies dying of gastrointestinal disorders. Since that time much attention has been given to the occurrence of mastoid infection in infants suffering from severe gastrointestinal disorders. Brilliant results have been obtained following mastoid antrotomy in some cases refractory to other treatment. On the other hand such operation has been of no avail in many instances. It is evident that the mastoid involvement is a causative factor in some cases, in others a result of the lowered general resistance.

Dr. McKim Marriott sums up the situation as follows: "Considerable harm would undoubtedly be done if infants' mastoids were promiscuously opened for the treatment of diarrhea and nutritional disturbances without considering the possibility of other causes of the condition. More harm, however, has been done, and is being done, by permitting unrecognized infection to escape attention. In the light of our present knowledge treatment of the ears, nose and throat of babies assumes at least as great importance as modification of the diet. Beyond the age of infancy infections in the ears, nose, and throat do not so often lead to gastrointestinal disturbances, but such infections are often a factor in bringing about a condition of malnutrition."

Lymphoid Tissue

Considerable animal experimentation has been done in an effort to determine the causes of hypertrophy and hyperplasia of the lymphoid elements of the pharynx and other parts of the respiratory tract. But it must be admitted that thus far the problem remains a baffling one.

Infection is the most obvious factor, but the result of infection in these tissues varies greatly. One individual develops enormously enlarged adenoids, faucial and lingual tonsils with comparatively little history or evidence of infection. The same structures in another individual may return almost to normal size and appearance after repeated infections.

As far as diet is concerned it has not been shown that the lack of any particular food element is responsible for lymphoid hypertrophy. Although subjects who have had a diet deficient in vitamine "A" often present hypertrophy of the lymphoid elements along with the sinusitis and other respiratory infection it is difficult to say how much of the lymphoid hypertrophy is due to the vitamine deficiency *per se,* and how much to the infection.

Dr. Bryson Delavan, in addressing the American Laryngological Association, made a plea for the thorough investigation of this subject. Preventive measures may some day be effective, but at present we must continue to depend upon the removal of the diseased tissue when necessary.

Incomplete Tonsillectomies

Rhoads and Dick have reported their observations on four hundred and three tonsillectomized individuals. They found fairly large pieces of tonsillar tissue remaining in nearly three-fourths of these patients. The clinical importance of these tonsil remnants was indicated by the fact that cultures showed such tissue to contain more pathogenic organisms per gram than did tonsils removed the first time. Furthermore, striking clinical improvement often followed removal of such tonsil stumps when the results of first operation were disappointing.

These findings certainly stress the need for the application of greater skill in performing tonsillectomies. This operation, because of its frequency, is often viewed too lightly, and considered a very minor procedure.

In recent years the use of x-rays, radium, and electro-coagulation has been advocated for the treatment of some types of diseased tonsils. The exact field of usefulness of these modalities has not been established with certainty. Reliable reports of good results in selected cases have been recorded. On the other hand subsequent surgical removal of tonsils which have been treated by one or another of these methods sometimes reveals gross infection in the deeper parts of the tonsils.

Agranulocytic Angina

In 1922 Schulz reported six cases of acute mouth and throat infection in which death occurred in three or four days. The most striking finding in each patient was a pronounced leukopenia with great reduction in, or absence of, the granular cells. Since this report many more cases have been recorded in the literature. Potts, in reviewing those reported previous to 1929, summarizes eighty-three, of which only eight recovered.

The onset of this disease is acute, with high fever, and often chills. The tonsils and pharynx become acutely inflamed. Ulceration usually supervenes, often of a gangrenous type. A grayish membrane may be present, not unlike that seen in diphtheria. Severe prostration rapidly ensues, usually going on to fatal termination in from three days to two weeks. Various forms of treatment have little effect upon the course of the disease.

The blood picture generally presents a fairly normal red cell count and hemoglobin index. The white cells vary from five thousand down to a few hundred, and are almost all lymphocytes.

Neutrophil leucocytes are absent or found in very small numbers.

Patients presenting similar agranulocytic blood findings, but without throat involvement, have been observed, and cases may be found recorded in the literature as far back as 1904. Ulcerative lesions have been noted in the gums, in all parts of the gastrointestinal tract, the genitals, and in other locations. Blumer states that some of these cases cannot be differentiated during life from acute aleukemic lymphatic leukemia with terminal infectious processes. Whether the lack of granulocytes is due to unusual virulence of the causative organism or to inherent weakness of the granulocytic element of the bone marrow has not been determined.

In surveying the recent literature of otolaryngology one of the most striking things noted is the consideration of our special problems from the broad viewpoint of general medicine. Papers by physicians in various special fields of practice, by biochemists, physiologists, and other pure scientific workers are frequently presented. This obvious co-operation is beneficial.

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THE TREATMENT OF INTERCURRENT DISEASE IN DIABETES*

By

ALEXANDER M. BURGESS, M.D.
454 ANGELL ST., PROVIDENCE, R. I.

The treatment of the average diabetic should be begun when the diagnosis is first made and continued the rest of his life. During this long period he may possibly be able much of the time to achieve one hundred per cent. efficiency in his work, and to live and function as a normal member of society. Unfortunately, however, he is as susceptible as is his non-diabetic brother to disease processes of all sorts and is especially prone to certain ailments, particularly if his diabetes is not well controlled. When an intercurrent disease has been established in a diabetic individual it is well understood by all that in many cases the prognosis is distinctly clouded by the presence of the diabetes.

If we inquire into the factors which render intercurrent disease particularly dangerous to the diabetic, we find that there are three main conditions which obtain to a greater or less degree in every diabetic and which act as a distinct handicap to him in combating disease. These are (1) hyperglycaemia, (2) acidosis, and (3) arteriosclerosis. Of course there is great variation in the importance of these factors, especially in relation to the age of the patient and the duration of the diabetes.

Hyperglycaemia, which is the essential fact in diabetes, or we might perhaps say the primary result of pancreatic dysfunction, is certainly a most important cause of increased susceptibility to bacterial infection. Practically all pathogenic bacteria find the resistance to their growth

*Address to the Newport Medical Society, April 16, 1930.

decreased in the person whose blood sugar is persistently above normal. The staphylococcic lesions, particularly furuncles and carbuncles, we think of as especially characteristic of this disease. In this connection it is well to remember that the percentage of excreted sugar in the urine is no measure of the hyperglycaemia. In many diabetic people a blood sugar reading of over 200 m.g. per liter may be present without the appearance of glycosuria, while in others in spite of a decidedly positive Benedict's test the blood sugar level may be but little above the normal and they may be said to approach the picture of renal diabetes. In the elderly and in diabetics of long standing in whom marked arterio-sclerotic changes have taken place, the kidney threshold is often considerably raised and in such individuals a study of the blood is of especial advantage in combating infections. Obviously it is necessary in treating bacterial infection to take steps to decrease the blood sugar and bring it as nearly as possible down to normal limits. For this purpose insulin is of course our mainstay, because to reduce the blood sugar by starvation or semi-starvation adds a new factor, that of undernutrition and its tendency to an increase in acidosis, to the wrong side of the balance sheet. The practical methods of using insulin in these conditions will be discussed below.

Acidosis, which we may call a secondary result of pancreatic insufficiency in the diabetic, is of still greater importance than hyperglycaemia and is much more to be feared and actively combated. Like hyperglycaemia, acidosis increases the susceptibility of the patient to infection. We are dealing with a vicious circle because the presence of an infection increases the tendency to acidosis. Also unfortunately both acidosis and infection render the patient relatively insusceptible to the action of insulin, so that relatively large doses have to be used to obtain results. This "insulin resistance," so called, we see commonly in all febrile conditions, and it is also very marked in profound acidosis and is the reason for the enormous doses of insulin that are usually necessary in combating this condition. It may well be added that the well-known increase in the tendency to acidosis after the use of ether and chloroform makes the lot of the patient, who suffering from an infection, is operated under either of these anaesthetics, doubly hard.

The practical method, that of dealing with infections in the diabetic, is to remove and prevent acidosis and secondarily to overcome hyperglycaemia. Insulin, used vigorously, is the one and only weapon on which we can rely. If laboratory facilities are at hand and one can carefully follow the blood sugar at frequent intervals it is safe to give insulin in large doses with a relatively small amount of carbohydrates being given. If, however, we must rely for the most part on urine tests, it is much safer to try to get rid of the acidosis first and reduce the blood sugar more conservatively by administering doses of carbohydrates after every injection of insulin and dropping the insulin dosage to a point theoretically insufficient to balance the dose of carbohydate as soon as the urine becomes sugar-free. There is also some probability that the injected insulin acts more quickly on the "exogenous" carbohydrate than it does on the carbohydrate already in the circulating blood and thus reduces the acidosis more effectively than when it has no such recently introduced dextrose to act upon. We must remember furthermore that by the use of insulin and carbohydrate we are preventing the further formation of B. oxyletyric acid but are not removing that which is already present. Fluids, therefore, should be forced to the limit to facilitate the excretion of this material and also because the patients are almost always somewhat dehydrated. The fluid should be given by mouth, by rectum, subcutaneously, or even intravenously if necessary. This treatment of acidosis, which we often call the "pre-coma treatment," should be used routinely at the beginning in the case of all severe infectious diseases as well as after operation. Routine orders may be somewhat as follows: "Insulin units XV every four hours—one-half hour after insulin give orange juice or ginger ale or oatmeal gruel (containing fifteen grams of dry oatmeal) ʒ IV Force fluids. If urine shows a "green" test reduce next insulin dose to units X, if a "blue" test reduce next insulin dose to units V. Resume dose of units XV if a "yellow" or "'red" test occurs. Report nausea or vomiting. Keep fluid and urine chart. After acidosis has been overcome by this sort of treatment a more complete control of the hyperglycaemia can be attempted by the usual dietary and insulin adjustments, always keeping in mind, how-

ever, the fact that the fats should be kept relatively low.

The third handicap of the diabetic lies in the vascular changes to which he falls heir. Although such changes can be demonstrated even in children it is only in the elderly and in diabetics of many years standing that they require attention. Joslin has pointed out the increasing importance of these changes in diabetics because of the increasing length of life of the diabetic and the fact that acidosis and resulting coma can be almost always prevented. The normal end of the diabetic, we may almost say, is to die as the result of arterio-sclerosis, and modern treatment may yet so delay this end that it fairly well corresponds to that of the normal individual. The final picture is in most cases that of disaster due to arterio-sclerosis of the coronary, the cerebral, or the renal arteries. Sclerosis of the arteries of the lower extremities is also a most important factor and is of particular interest to us in discussing the treatment of intercurrent infections. Sclerosis of the retinal arterioles, with the well-known destructive changes which result, may also be mentioned. As far as the prophylaxis of arterio-sclerosis in the diabetics is concerned we may say that a great deal of investigation is being carried on. It would appear that the avoidance of a diet high in fat and especially in cholesterol may be important in the prevention of vascular changes. With this end in view Dr. Joslin restricts all his older diabetics to the use of but one egg daily. In certain instances, especially in infections of the lower extremities, the question of vascular change as it affects the blood supply is one of paramount importance.

When we come to a consideration of the treatment of specific diseased conditions in diabetes there is not much to add to the general principles outlined above. Among the commonest conditions with which we have to deal is ordinary "grippe" or influenza. If the patient has not been carefully instructed this may prove to be a serious or even fatal condition. I have seen several instances in which an apparently well instructed diabetic upon finding himself in the early stages of this condition with the well-known aversion to food, omitted his insulin because he couldn't eat and promptly developed severe acidosis and fatal coma. When to the toxaemia of the disease is added diabetic acidosis the condition is an extremely ugly one. At times these patients by heroic use of insulin will recover from the coma only to slip back into a state of utter exhaustion, unconsciousness and death. This is so important a matter for the severe diabetic that in our clinic the following notice is printed on every diet slip given to patients: "To Patients Who Are Taking Insulin: In case you get influenza, grippe, a bad cold or any other acute disease, remember that it is dangerous to stop taking your insulin. If you are unable to eat, take orange juice or ginger ale instead of your meals. This will prevent acidosis. If you are nauseated and cannot keep orange juice or ginger ale down, notify a doctor or the hospital at once."

In children acute gastro-enteritis, or as it is sometimes called by the laity "intestinal grippe," is a common exciting cause of severe acidosis. Here we are especially at a disadvantage as vomiting is usually present and prevents the administration of fluids by mouth. The rectal, subcutaneous and intravenous routes must be employed. Among the infectious diseases of longer duration lobar pneumonia is of fairly frequent occurrence in diabetics and may serve as an example. Here we should begin with "pre-coma treatment" as outlined above and then add gradually to the diet such nourishing soft solids as may be indicated, always preceding the food with a sufficient dose of insulin. A large number of diabetics survive lobar pneumonia every year, thanks to insulin, and though the diabetes certainly clouds the prognosis appreciably, if treatment is begun with the beginning of the disease the outlook may be only slightly worse than it is in the non-diabetic.

When tuberculosis occurs in the diabetic patient we are dealing with a rather different problem. In chronic tuberculosis of the lungs, as indeed in tuberculosis elsewhere, we have the problem of treating both diseased conditions at once in order to make headway with either. It is foolish to try to give the patient careful treatment for his tuberculosis and neglect the diabetes. If, however, the diabetes is kept under good control we often see very good results in the treatment of the pulmonary condition.

Another condition which is seen not uncommonly in the diabetic is peptic ulcer. Here again we have to combine treatment for two different conditions. It is, however, a rather simple matter to lay out for the ulcer patient the desired dietary regime for treatment of the ulcer and

then give sufficient insulin in three or four injections to keep him sugar-free. Such a diet as that recommended by Sippy is very high in fats in the first few days and it is well to modify it by the addition of orange juice or cereal in order to prevent the tendency to keytosis which would otherwise result.

The principles that have been already stated regarding the care of infections in the diabetic apply to those infections which are amenable to surgical treatment, with the added generally accepted rule that surgical intervention should, except in very unusual cases, be undertaken when indicated without waiting for any amelioration of the diabetic condition. As soon as surgical drainage is established we usually find marked improvement in the diabetes. In dealing with acute abdominal conditions, especially where these is suspicion of appendicitis, one must, as has been often emphasized, remember that severe acidosis produces severe abdominal pain and leucocytosis and therefore is easily mistaken for an "acute abdomen."

When we come to discuss the treatment of infections of the extremities in diabetes we must take into consideration the third of the diabetic's handicaps, vascular changes. In elderly diabetics especially, and often in some of the middle age in whom the diabetes is of long standing, arteriosclerosis has progressed to such an extent in the vessels of the lower extremities as to interfere with the nutrition of the tissues and cause a marked tendency to necrosis if any injury takes place. Infections and injuries of the feet, then, are of special interest because we have to consider not only the possible presence of hyperglycaemia and acidosis but also the question of the blood supply of the part. Hyperglycaemia and acidosis can usually be effectively controlled as has already been pointed out, but to increase the blood supply to the part may be an impossible undertaking, and yet one which should usually be attempted.

Before discussing the treatment of these conditions it is perhaps well to say a word or two about prophylaxis. This is of so much importance that patients are routinely taught regarding the care of the feet and also are specifically warned against allowing any lesions on the toes or elsewhere on the feet to progress untreated. They are given directions as to the careful washing and drying of the feet and the application of lanolin or other emollient to prevent drying and cracking of the skin and thus favoring the entrance of an infection.

When an ulceration or infection of the toes has occurred, especially if it is characterized by necrosis, one should determine as soon as possible whether or not conservative treatment is advisable or immediate mid-thigh amputation should be done. The most important single sign favoring an attempt at conservative treatment is the presence of a good palpable pulsation in the dorsalis pedis artery. In the presence of such a good pulsation one can expect healing of even quite gangrenous appearing lesions if hyperglycaemia and acidosis can be controlled, and rest and adequate local surgical measures can be carried out. When, however, no pulsation can be felt and necrosis is evidently increasing in spite of treatment it is a mistake ordinarily to delay amputation. The danger of a rapidly ascending infection and septicaemia is always present.

In the absence of an adequate blood supply to the toes every effort must be made to increase the flow through the sclerosed arteries and to favor the establishment of collateral circulation. Physiotherapy in the shape of hot soaks and massage of the whole leg are helpful. So also are Buerger's exercises in which the patient lies with the leg raised at an angle of 40 degrees for a few minutes, then flat on the bed for a few more and then for a short time hanging the foot off the bed thus alternately favoring, filling and emptying of the vessels. A good routine is to order the patient to lie with his leg up three minutes, level five and down one, repeating continuously for one hour twice daily. It is not uncommon to see small early ulcerations heal when treated by these methods. A pregangrenous condition of the toes, that is, the condition in which the blood supply is much diminished but ulceration and gangrene have not yet occurred, is in many cases associated with severe pain which may be greatly relieved by these measures. Scrupulous local surgical care of ulcerations is of the greatest value, especially the removal of sloughs and careful draining of all small collections of pus. Bone involvement often occurs early in these cases and therefore x-ray examination should be resorted to promptly. A recent case illustrating the value of scrupulous surgical care came under my observation. A

woman of 64 years, a known diabetic of many years standing, was seen by me in consultation with her physician because of a large superficial ulceration just below and anterior to the internal malleolus. This was a gangrenous ulcer about 3 c.m. in diameter. No pulsation was palpable in the dorsalis pedis artery. The patient was put on Buerger's exercises, massage, etc., and yet the ulcer progressively increased in size. Simple boric acid ointment dressings were applied to the ulcer. When it had reached an average diameter of 6 c.m. in spite of all treatment, mid-thigh amputation was urged with the concurrence of a surgeon in consultation. The patient and her family refused amputation and requested further consultation. Dr. Joslin then saw the patient and agreed that amputation was probably inevitable and should be done promptly to avoid the likelihood of ascending infection, but advised a three or four-day trial of complete cleaning of the ulcer with daily removal of all sloughs down to healthy tissue. To the surprise of all, healing began in a few days and eventually the ulcer closed completely and remains healed up to the present time (two years later).

When intercurrent disease or pre-existing pathological conditions make necessary major operations on the diabetic, our problem is not radically different, and the principles and methods already explained are applicable. In the first place urgent surgical indications should be met without delay, and after the operation the patient should be placed on "pre-coma treatment" and kept on this regime for from 24 to 72 hours. If ether or chloroform has been used or some infection is present the treatment must be especially carefully and completely carried out. If the operation is not urgent but one of choice, the patient should be kept sugar-free on an adequate diet relatively high in carbohydrates and low in fats and controlled by an adequate insulin dosage for several days before the operation. This is in the hope of favoring glycogen storage in the liver and muscles. On the day of the operation it is well to give orange juice and insulin about three hours before the operation and then to begin the "pre-coma treatment" immediately after the operation, using the rectal and intravenous route for the introduction of dextrose if necessary.

In the foregoing discussion it has not been attempted to go into all the details of treatment of most of the common diseases to which the diabetic is susceptible, but rather to state the main principles on which such diseases are to be treated and to illustrate by a few examples. To one who is familiar with the bad results common before the days of insulin, it is indeed thrilling to see diabetics not only filling their places in the world as efficient citizens, but also weathering the stormy tempests of disease, severe disease, with only a little less ease than do their non-diabetic colleagues. By controlling first acidosis and then hyperglycaemia the diabetic is given at least an even chance against his infection and may go on to fulfill his destiny in spite of his great tendency, as yet incompletely understood and only to be slightly offset, to vascular degeneration and eventual vascular catastrophy.

PREMENSTRUAL ELEVATION OF TEMPERATURE IN THE TUBERCULOUS WOMAN

The records of 363 tuberculous women have been reviewed by Edwin M. Jameson, Saranac Lake, N. Y., and Donald A. Bristol and Susan A. Cavanaugh, Lake Kushaqua, N. Y. (*Journal A. M. A.*, July 5, 1930), with especial reference to the occurrence of a premenstrual fever. The cases were subdivided according to the classification of the National Tuberculosis Association, and the incidence of a premenstrual rise in temperature, the duration of such a rise and the number of days before the onset of the menses that the rise occurred were determined. From the results of this analysis of the sanatorium records of 363 tuberculous women who were discharged with the disease apparently arrested or improved, Jameson et al., conclude that: (1) Some premenstrual rise in temperature is shown by 42.4 per cent of tuberculous women. (2) The extent of the tuberculous lesion seems to have no influence on the frequency with which this rise occurs. (3) The rise in temperature varies from 1.29 degrees F. in the moderately advanced cases to 1.41 degrees in the minimal and 1.6 degrees in the far advanced cases. (4) The number of days before the menses are established that the rise begins is about nine days for all grades of tuberculosis. (5) The rise in temperature lasts from 7.38 days in the far advanced cases to 8.81 days in patients with minimal tuberculosis.

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The R. I. Medico-Legal Society—Last Thursday—January, April, June and October. Henry M. Boss, Jr., President; Dr. Jacob S. Kelley, Secretary-Treasurer.

EDITORIALS

SHOULD WOMEN SMOKE?

The modern acceptance of the right of woman to follow her own dictates has done much to develop her sense of responsibility and obligation. Certain detrimental tendencies have appeared, however, under the guise of a single standard for the two sexes. One of these tendencies is tobacco smoking which, temporarily at least, is increasing rapidly with women.

To argue that women do not have as much right to smoke as men is absurd. No one denies that right. Women, and particularly young women, usually have less to do than men. The opportunity and the desire to smoke is greater than that of men. Women, however, do not have as strong constitutions as men, and any deleterious effect of smoke will manifest itself more promptly than in men.

If an educational appeal to women were made on the ground of ill effects of smoke to them, it would be far more apt to succeed than were it made on the ground of right, or sentiment.

OUR ACOUSTICS

The acoustics in the auditorium of the Medical Library are being cussed and discussed. Too long has this illness remained untreated, too many have been the gems of thought which have been lost in transit and failed to reach the auditors, too few the speakers heard with clarity and distinctness.

That this hall is of faulty construction and placement cannot be denied. In the writer's opinion, contrary to some expressed views, it is a question of hypo- rather than hyper-resonance because of lack of sound projection from the ceiling and from behind the speaker. Should the speaker stand in a shell such as is frequently seen in churches, it is quite possible that conditions might be improved. This is at least worthy of a trial and would be an inexpensive experiment.

On the other hand the fault is not entirely in the hall. Those who bewail the disappearance of the drama and the success of the talkies must recall the many times when they have paid a high price for an uncomfortable chair, heard bad music and tried to hear actors talking at one another well upstage. Many singers do not know how to talk, to speak with good diction or to use the resonant chambers of the head in phonation, the prime requisite to good carrying power. The fault with many of us who read medical papers or speak before the medical society is that we do not know how to speak in public, clearly and carefully and with good diction; which is nothing more than clearness of enunciation.

The greatest of surgeons and scientists may gobble his words, the grandest old man of medicine may not know how to point his voice, the most learned may not know how to speak clearly.

SLEEP

Early in the evening, the tired, healthy child settles into a comfortable position, with muscles relaxed, and sleeps quietly until morning. After he is once settled for the night he does not usually move until he is about to awake. According to the ancient expression, he sleeps "like a log." This habit of sleeping quietly is followed by many, probably by the majority of adults. Witness the sound sleeper who snores without change of rhythm for hours at a time.

There are also restless sleepers who may roll out of bed and wake to find themselves on the floor and somnambulists who may walk for some distance without awakening. A usually sound sleeper may have a restless night as the result of indigestion, physical pain or the presence of a bright light in the room. From age-old custom we have become accustomed to sleeping in the dark, a habit which is broken with great difficulty. Night watchmen who have worked by night and slept by day testify that they have never become accustomed to this routine to the extent of securing as restful sleep as they would enjoy at night. If a bright light is allowed to shine upon a sleeper he becomes restless and soon wakens.

The reaction to sound is quite different. One soon becomes accustomed to sleeping soundly in the midst of considerable noise. One used to sleeping in a noisy place may not sleep as well in a quiet room. He misses the rumble of the trains passing the door.

Many physiological factors of sleep have not been explained. Why does one sleep peacefully as the clock strikes the hours but wake promptly at the stroke of seven? Why does the knowledge that the alarm clock is set for five o'clock arouse one at five minutes before the hour? Why do some awaken at a predetermined moment without being called? The man who is to be hung at daybreak will probably not need to be awakened to be in time for the ceremony.

In a recent paper, Johnson, Swan and Weigend prove conclusively that we are all restless sleepers, changing our position from twenty to forty-eight times during the night and holding one position from two and a half minutes to an hour. The proof is experimental and is very ingenious. A 100-candle power lamp is suspended over the bed. A motion picture camera is arranged to be set in motion whenever the sleeper moves. The results completely upset the idea of quiet sleep. The observations were repeated on 112 individuals and would seem to be conclusive.

Never-the-less, the impression that many of us sleep quietly is the result of years of simple observation and is entitled to consideration. It

may be that the bright light in the room is enough to cause a restless night for the sleeper or that knowledge that the camera is ready to record any movement may be sufficient to account for the movements being made. In spite of the experimental proof to the contrary we shall continue to hold that the tired, healthy child sleeps "like a log."

DERMATITIS VENENATA*

A Study Based on an Analysis of 318 Cases

By

ROY BLOSSER, M.D.
PROVIDENCE, R. I.

The word venenata (venenatus—poisonous) is applied to the eruptions caused by both plants and chemicals. Seemingly almost any chemical, if brought in contact with the skin, may in susceptible persons produce a dermatitis. Similarly a large number of plants and the wood of certain trees has caused dermatitis venenata. Walker[1] gives a list of thirty plants and six varieties of wood which have been known to cause dermatitis.

In certain cases prolonged exposure to the irritant is necessary but idiosyncrasy is an important factor. It has often been observed that in a manufacturing plant where a certain chemical is used only a small percentage of the employees, or possibly only one, will be affected.

I shall not enumerate all the chemicals and plants which have been known to cause dermatitis but will only mention those which in my own practice have been the most common. Of the cases due to plants, poison ivy and sumac caused the dermatitis in thirty-one and the primrose plant in nineteen. The primrose is really a very active poison; its sale either should be prohibited or florists should warn their customers of the risk they run in handling this plant.

The small percentage of cases in this series which were due to poison ivy can be explained by the fact that the majority of patients do not come to a physician for treatment of this dermatosis.

The English ivy caused the trouble in four cases.

Cases of dermatitis due to cosmetics are quite common. There were twenty-two caused by face powders, beauty creams and various cosmetic preparations such as nail polishes, remedies for excessive perspiration, etc. Scalp lotions and hair dressing preparations caused the dermatitis in thirteen.

Medicinal preparations applied externally for such purposes as relieving colds, rheumatism, etc., and the iodine preparations were responsible in sixteen cases; sulphur ointment, applied in the treatment of scabies, in three cases. A sulphur dermatitis is no trivial matter and it is best to warn patients who are beginning anti-scabetic treatment that they should discontinue the use of the salve if any irritation of the skin appears and should not use it longer than the prescribed three nights.

Soaps and washing powders caused twenty-nine cases. Infants are especially susceptible to the latter variety of dermatitis; it is much safer to wash their napkins and underclothing with a plain soap.

Dyed furs caused dermatitis in twenty-two cases and hair dye in sixteen making a total of thirty-eight.

Men who carry matches in their pockets are at times affected with a localized dermatitis and there were two cases of this type; in one case the dermatitis was caused by carrying in the pocket a handkerchief moistened with a liquid which is advertised for the prevention and cure of colds, influenza, etc., to be used by inhalation.

The cases of so-called occupational dermatitis numbered forty-three and were caused by nineteen different agents among which were oils, dyes, paints and varnishes, polishing materials, solvents and other chemicals.

The term occupational dermatitis while a useful one, seems etiologically unscientific in that while one person might develop a dermatitis from wearing a dyed fur, which is certainly not occupational, another could develop a dermatitis from handling dyed furs in his daily work.

One patient illustrating the above point, and also the complexity of certain cases as regards diagnosis, is an employee in a beauty parlor. She developed a severe dermatitis of the hands and was advised to stop work. Under appropriate

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*Read before the W. W. Keen Club of Providence March 28, 1929.

[1]Walker, Norman: An Introduction to Dermatology, Edinburgh, Sixth Edition, W. Green & Son.

treatment the dermatitis cleared up promptly but recurred as soon as she resumed her work.

In addition to the use of rouge and cold cream on her skin, she used in her daily work eight different preparations as follows: four remedies for various defects of the skin—a skin pore remedy, a bleaching lotion, bleaching packs and a so-called complex pack. On the scalp, a liquid tonic application, a salve, a solution used in permanent waving, and tincture of green soap for shampooing. Most of these preparations doubtless contain one or more medicinal ingredients whose nature probably is known only to the manufacturers. With eight possible factors involved we could only guess as to which was the guilty one.

Eighteen cases of dermatitis were due to wearing or handling dyed furs.

In eleven cases it was caused by hair dyes.

The appearance of the skin in dermatitis venenata varies with the variety of irritant and the duration of the inflammation. An example of the severe type is the well known poison ivy dermatitis with marked inflammation, edema and the formation of vesicles and bullae; in extensive cases there are constitutional symptoms.

As an example of the chronic type may be mentioned the dermatitis of the hands occurring in photographers and caused by developers or other chemicals: The skin is rough, thickened and itchy; deep fissures are often present and are painful and annoying.

In between these two extreme examples are cases exhibiting various degrees and stages of inflammation and chronicity. Then there are mild cases of dermatitis. For example, certain face powders or soaps will sometimes cause slight redness and roughness of the skin with some itching.

Determination of the cause of the dermatitis may be easy but is often very difficult. In many cases we can only arrive at a presumptive conclusion which will later be proved or disproved. A patient who has a dermatitis on the hands may have been painting some furniture and we suspect paint, paint remover or turpentine; but coincidently she may have been washing clothes with a washing powder, or polishing the silver with a silver polish. Another patient may have used a soap on the face of which we are suspicious, but also she may have been using a powder, several kinds of cream and a beauty lotion which also come under suspicion.

The location of the dermatitis, especially as to its first development, may furnish a clue; from a dyed fur it would naturally start on the neck or the lower part of the cheeks. From hair dye it would be higher on the face and on the ears; the scalp is singularly resistant to irritation and seldom shows inflammation in these cases.

Having discovered and removed the cause of the dermatitis the treatment is fairly simple. In the acute cases of a mild type the application of compresses wet in cold or iced boric acid solution followed, by the U. S. P. Unguentum Aquae Rosae will give relief. In more severe cases the boric acid compresses may be followed with an ointment containing two drams of starch to the ounce of Unguentum Aquae Rosae and from one per cent. to two per cent. of phenol.

In the chronic cases fractional doses of x-ray should be given to the affected parts in order to overcome the alterations in the character of the skin—the roughening, thickening and loss of elasticity—and for the relief of pruritus. A considerable part of the changes in the skin in such cases are due to the continued scratching.

A RESTRAINING SHEET

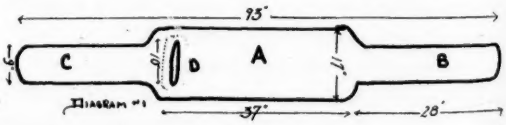
By

MEYER SAKLAD, M.D.

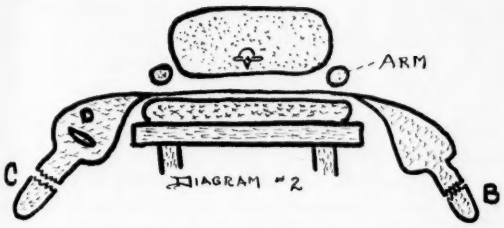
104 OLNEY STREET
PROVIDENCE, R. I.

A satisfactory restraining sheet for the arms of a patient undergoing an operation under regional or spinal anesthesia is a necessity. The accompanying is a description of a sheet found to be very satisfactory.

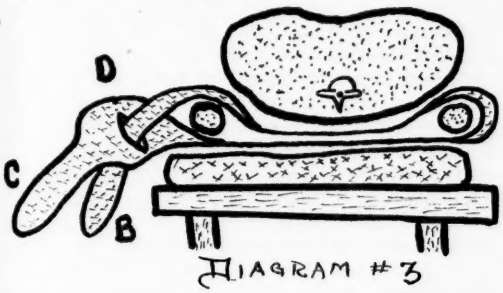
This sheet consists of a body "A," opening "D" and two tongues "B" and "C." (Diag. 1)



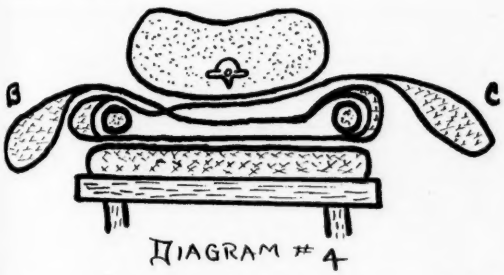
The patient lies on the body of the sheet "A" and the two tongues hang down on each side of the operating table. (Diag. 2) The sheet should be so placed that it centers at the bend of the elbow.



Tongue "B" is carried over one arm, passed under the patient, over the other arm and through opening "D." (Diag. 3)



Tongue "C" is then passed under the patient. The patient is asked to sit on his thumbs. Traction is made on the tongues in opposite directions. (Diag. 4). The loose ends of the sheet are then tucked under the mattress.



If properly applied, it is virtually impossible for the patient to extract his arms.

SOCIETIES

The Rhode Island Medical Society

The regular September meeting of the Rhode Island Medical Society was held Thursday, September 4, 1930, at Newport, R. I. The Society was entertained by the Newport County Medical Society who provided a most interesting program throughout the day.

The meeting assembled at the Newport Hospital at 10:30 A. M. where each member was provided with a badge, and at which time inspection of the Newport Hospital was made possible under the guidance of the members of the staff.

At 11 A. M. the Fellows went to the U. S. War College where they were shown the rudiments of the War Game as carried on at the College for the instruction of naval officers in the handling of fleets in action.

Following this the U. S. Naval Hospital was inspected and every courtesy was shown by the staff of that hospital to the visitors.

At 1 P. M. a shore dinner was served at the Newport Beach, and following the dinner Mayor Mortimer Sullivan of Newport extended greetings of the City to the Society in a short speech. Dr. Julian A. Chase, President, responded in behalf of the Society.

Following the dinner some of the Fellows were driven over the Ocean Drive and given an opportunity to inspect the Swiss Village on the Curtis James Estate; while others took advantage of the Committee's arrangement for playing golf.

About 4 P. M. the Fellows were guests of the Ida Lewis Yachting Club which afforded a splendid opportunity to view the Enterprise, defender of America's Cup, and the challenger, Shamrock V, in the harbor.

There were 140 present at the meeting which was a most enjoyable affair; thanks to the energy of the Executive Committee of the Newport County Medical Society: Dr. Norman McLeod, Dr. Samuel Adelson, Dr. J. W. Sweet.

A vote of thanks of the Society at the dinner was extended to the Newport County Medical Society and to the Executive Committee for their courtesy and hospitality.

Adjourned.

J. W. Leech, M.D.,
Secretary.

MISCELLANEOUS

RELATIONSHIP OF MEDICAL EDUCATION TO COST OF MEDICAL CARE

Ray Lyman Wilbur, Washington, D.C. *(Journal A. M. A.* April 27, 1929), in a paper read before the Annual Congress on Medical Education, Med-

ical Licensure and Hospitals, Chicago, Feb. 18, 1929, says that as at present organized, medical education is costly in time and in money to the student, to the teaching institution, and consequently to the public. There is no valid reason why the medical course leading up to the hospital experience should require longer than three calendar years. There is certainly no adequate reason for the long summer vacation period. Following this three-year period, medical education now requires intimate association with the hospital in the form of an internship or something similar, and close supervision of students actually carrying on the functions of physicians. Just at present there is developing an exuberance in some plans for buildings for medical instruction leading up to the degree of doctor of medicine. In one of our great cities the plan is now going forward for the construction of a plant at an approximate cost of $55,000,000, with the primary aim of undergraduate instruction of medical students. With a striking absence of facilities for the profession to obtain real opportunities for so-called postgraduate training, it seems absurd to aggregate such large sums of money in metropolitan centers for undergraduate medical instruction. No such sums are actually required to give the training necessary. There is no great advantage to the medical student in being in a large, elaborate highly organized plant. Small classes are requisite for modern medical training. Simple conditions in which the patient, teacher and student can have daily and intimate contact, need not be excessively expensive. It is evident as we look at medical education that there has been an elaboration of plant, a marked increase in expense, an increase in the amount of time required for training, and a general set-up that starts the young physician off comparatively late in life after a large expenditure of time and money. Since the only capital which a physician has is in himself, and the only possession he has is his time, and since life is limited, it is important that a proper scheme be evolved so that medical education may not put too great a cost on the sick. We do not want cheap medical education or cheap men; but we do need and demand all the economies that are reasonable and possible during the period of medical training if we are to solve the coming problem of the distribution of medical service at a reasonable cost to the public. Any one who tries to chart the course of a young physician going into our present economic system cannot help but be impressed with its poor organization from an economic standpoint. It is just as clear that while this lack of organization may make it difficult for the young physician, it makes it doubly difficult for the patient unless he happens to be so fortunately situated as to be empty of pocket or rich. It is clear that medical practice is far behind the plans that have been developed in industry and in many other forms of public service. It will require the most searching study of the facts and the application of these facts in the true spirit of the experimenter if we are to develop conditions that will make it possible for the physicians to meet their own problems and for a single illness not to become a prolonged handicap to an individual or to a family. Perhaps there is need in medical education for the training of physicians in the field of economics and social organization. While it is true that the physician belongs to a profession with a long history of service for anyone in physical need, it is likewise true that training in the social sciences has not been the strong point of the medical student or of the medical school. In fact, the physical and biologic sciences have taken such a predominant place in the curriculum and in our thinking that it has been difficult to find time for courses for the training of physicians in handling even their simple business affairs. Perhaps the medical school is not ready yet to insist on a training in economics, government, political science and history, and the relations of medicine thereto; but unless such training and such thinking are soon started the present chaos in medical practice will inevitably make for high charges on the sick and an inadequate return to the physician. The medical profession must stand for adequate preparation and sound training; but it need not demand abnormal expenditures of time and money to provide elaborate specialized training in all the fields of medicine for the candidate for the degree of doctor of medicine. Simplification of the curriculum, reduction in the number of calendar years, increase in the hospital opportunities, the adoption of relationships of hospital to medical practice so that the young physician may receive a salary and yet be connected with hospitals and clinics for further training, will all help to make him more effective and of ultimate benefit to the public.

ANNOUNCEMENT

THE CLINICAL-PATHOLOGICAL CONFERENCES will be resumed at the Rhode Island Hospital at 12 o'clock noon, October 14th, and will be held at the same place and hour every second and fourth Tuesday from above date on. The first topic will be by Dr. Chase, who will discuss "An Obscure Abdominal Condition."

The second will be by Dr. Burgess, who will speak upon "A Disturbance of Pigment Metabolism."

Dr. Clark will present the pathological findings.

All are welcome.